DOCUMENT RESUME

ED 405 866 IR 056 295

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TITLE Performance Measurement in the Context of Quality Management.
PUB DATE [95]
NOTE 14p.; Paper presented at the Northumbria International Conference on Performance Measurement in Libraries and Information Services (1st, Northumberland, England, August 30-September 4, 1995).
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Reports - Evaluative/Feasibility (142) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Libraries; Case Studies; Cost Effectiveness; Efficiency; *Evaluation Methods; Foreign Countries; Higher Education; Librarians; *Library Administration; Library Facilities; Library Planning; Library Role; *Library Services; *Measurement Techniques; *Organizational Effectiveness; Organizational Objectives; Staff Development; Strategic Planning; Users (Information)
IDENTIFIERS Denmark; *Performance Indicators; *Service Quality

ABSTRACT

This report describes Copenhagen (Denmark) Business School Library's (CBSL) use of performance measurement to manage the quality of library services and facilities. The CBSL quality management program consists of: a statement of strategic goals of development and operation, including a focus on users, good service, efficient internal functions, and optimal use of resources; a program for staff training and development with plans for manuals for operations and service; an evaluation procedure; and a procedure for corrective action. Performance measurement is a necessary instrument for quality management. It makes possible the assessment of whether or not a library fulfills its goals and objectives, and whether or not particular objectives remain relevant. Performance measurement cannot provide a totally objective and comprehensive image of a library's function, but is still necessary for a quality conscious library. Management is an art, not a science, and decisions must be made on the basis of approximate knowledge and intuition. The report covers: (1) librarians and management theories; (2) performance measurement, evaluation, strategy, corrective action, and the CBSL quality management program; (3) the concept, purpose, and types of performance measurement; (4) a fictional case study measuring performance of an interlibrary loan program; and (5) problems of performance measurement that affect quality management. A brief discussion with the author is provided. (Author/SWC)

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Performance Measurement in the Context of Quality Management

by Michael Cotta-Schonberg

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Performance Measurement in the Context of Quality Management

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1. Introduction: Librarians and Management Theories

1.1 THE PROLIFERATION OF MANAGEMENT SYSTEMS

As you are aware, not a month goes by without the appearance of a new management theory, a new management guru, a new management bestseller. Sometimes, the newness consists in demolishing well-established theories and practices of other gurus, like Henry Mintzberg's *The rise and fall of strategic planning*, which arrived at the Copenhagen Business School (CBS) just after its governing body had decided to develop a strategic plan. As Mintzberg is one of the management gurus held in esteem at the CBS, his book was received with somewhat mixed feelings.

In later years, I have myself encountered management by objectives, participatory management, self-governing groups, team-building, consensus management (which I absolutely loathe and consider to be a violation of the human right of disagreement and of the noble culture of contradiction), strategic planning, corporate turn-around, the virtual corporation, the slim corporation, management by walking around, benchmarking, mentoring, the five-minute manager, total quality management and ISO quality certification. Most recently I have read about 180 degrees management and - a month later - 360 degrees management. What these last can be about, I do not know, but I am quite sure that at the next IFLA conference somebody is going to stand up and give a paper on 'Management by degrees in academic libraries'.

We should not wonder at this seeming fecundity of management theory. It is, after all, not only a field for fertile brains, but also a major industry, involving big money.

Like the fashion industry, the management industry systematically depends on continuous change and newness. The gurus are in a perpetual state of competition for lucrative consultancies, grand speaking fees, and next month's books on the best-seller list.

Actually, competition can sometimes turn into the ludicrous or the ethically questionable. For example, a recent book entitled *The discipline of the market leaders* stayed for 15 weeks on the *New York Times* bestseller, reaching as high as number five. It was then discovered that the authors' consultancy firm had by various means bought between 40,000 and 50,000 copies of the book from bookshops all over the US, particularly bookshops thought to be monitored by the *New York Times* (cf. *The Economist*, August 5th 1995, p. 53). So, beware of bestsellers.

1.2 LIBRARY MANAGERS' FASCINATION WITH MANAGEMENT SYSTEMS

Instead of wondering at the proliferation of management theories one might more reasonably wonder at library managers' fascination with them, particularly in the English-speaking world.

Whenever a new system is presented, it does not take many months before articles begin to appear in library periodicals on their application in libraries.

There is a positive side to this fascination: it represents an honest recognition that many, maybe most of us, are not born managers, and that management skills can actually to a considerable extent be learnt or developed. Also, the use of one system as a frame of reference can help to develop one's own consciousness about management issues in general and in particular.

On the negative side, the fascination with management theory is probably also due to feelings of insecurity and inadequacy, to some extent but not exclusively caused by the major technological upheavals in the library world.

Such fascination may lead to blind acceptance of one system, uncritical dependence on the guru, cognitive blindness towards divergent stimuli from the environment and self-imposed limitation on available options for action.

1.3 'BHIKKUS, YOU MUST BE YOUR OWN SALVATION'

There is no saviour system out there, waiting to be discovered and able to solve one's management problem. Learn from the hinayana Buddha's message to his monks: Bhikkus, you must be your own salvation!

In conclusion, a library manager should carefully

and critically select all relevant management insights, apply them to her own library and create a flexible management system adapted to local and personal circumstances.

This is what we have been trying to do at the Copenhagen Business School Library (CBSL).

2. From Problem Solving to Quality Management

The development of performance measurement and quality management at the CBSL will be related here. Through this process various important elements of quality management have been identified and related to each other in a way which may be of interest to other libraries pondering whether and how to proceed in this area.

At the outset, it has to be admitted that this development as a whole was not the result of a major planning exercise based on an overall view of things and a deep knowledge of management theory. The perspective, though, was clear: how things look to the user. It turned out that one phase of development naturally led to another, and in the end we have come up with a fairly coherent 'system', even though we somehow did it all backwards.

2.1 WHAT ARE WE DOING? PERFORMANCE MEASUREMENT

In 1988/89 the CBSL was confronted with a number of serious problems: other libraries in the area were constantly complaining about being swamped by CBS-students (about 15,000) seeking service they seemingly could not get in their own library; the budget was grossly inadequate in terms of the tasks demanded of the library; the major transition to computerisation was becoming urgent; there was a feeling that internal processes were not efficient.

In this situation it was decided that the first priority would be to get to know what we actually were doing.

We already had a set of basic statistics, ie. those reported on a yearly basis to the Danish library statistics published by the National Librarian's Office. These statistics comprised essential figures on collections, loans and resources.

To these statistics were added a series of data on output, eg. fill rate and delivery times for interlibrary loans from other libraries, and collection use. Special emphasis was laid on data concerning the availability of books.

To the output data were added data on internal processing functions, a major one being the time it takes for new books to reach the shelves after being received in the acquisitions department. This rather simple measure actually reflectr the overall functioning of a number of operations, acquisition, classification and indexing, descriptive cataloguing, physical preparation and registration in the lending module of the computer system.

The development of the performance measurement system is an ongoing process. It received new impetus at later stages with the addition of data on efficiency and effectiveness of operations and service as well as on the composition of the user group. Every year some measures are cancelled, new measures established and others revised even though the modifications are now comparatively few from year to year.

Next year we shall be looking at the performance measures proposed by ISO and IFLA and take over what seems useful for us. Also a serious attempt at including cost data has to be made.

Our performance measurement system probably never will become completely finished since new developments in service and working procedures will have to be monitored, but a stable form is expected to be established in two to three years.

2.2 ARE WE DOING IT WELL? EVALUATION

Quite soon in the work with performance measures, it became apparent that they did give us a much better picture of what we were doing as a library but that used properly they were limited to the descriptive sphere. They did not in themselves tell us if we were doing a good job.

However, to management it was important to be able to pass a value judgment on the work of the library, to be able to conclude whether or not we were doing a good job, and if this or that particular activity was satisfactory or not.

In connection with a set of fortuitous external circumstances, among them the interest and support in a project on the part of the Ministry of Education, it was decided to establish a program of library evaluation. The main purpose of the project was to evaluate the 'goodness' of the library. The program was to be ongoing and aim at annual or biannual evaluations.

To ensure independent expertise, Maurice Line was engaged as a consultant, which has led to a very fruitful and constructive relationship.

The first evaluation exercise was performed in 1991/92. It was based on a set of performance measures and - to a limited extent - on qualitative data from interviews with users. The third evaluation exercise covering 1994/95 has just ended. As with our performance measurement, the evaluation pro-

cedure is developed continually but will probably find a more stable form in two to three years.

2.3 ARE WE DOING WHAT WE WANT TO DO? STRATEGY

Already in connection with the first evaluation exercise it became apparent that subjective evaluation based on the managers' more or less conscious or articulated perceptions and values are satisfactory neither in general nor to the managers themselves. For a value judgment to work in an organisational context of our type, clear criteria of value should be formulated and approved by the responsible body, in our case the Library Board.

Three types of such criteria can be distinguished: Firstly, there are norms and standards approved by competent external authorities and associations. Examples are charters for public library services issued by local authorities in England, and guidelines and norms for library services from American library associations. Secondly, best practice may be used, obtained by comparison with other libraries (benchmarking) or by comparison of one's own performances at different times, mostly from year to year. Thirdly, many libraries now have a set of clearly formulated goals in the form of strategies, plans or sometimes service level agreements, often negotiated with and approved by the library's academic mother institution.

At the CBSL, we chose the last option in the form of a strategic plan. We had earlier had to formulate some goals in connection with long-range planning initiatives for the whole Business School. These were developed into a fully-fledged plan covering the whole spectrum of library activities. The plan is revised annually and approved by the Library Board as well as by the Academic Council, the highest governing board of the Business School.

Most often strategy is considered to be an expression of major and long-range lines of change and development. We feel, however, that for a service institution of our type daily operations and service are a major strategic issue. The plan therefore has two dimensions. One dimension is development both in terms of the long-range transformation of the library from a book-place to an information nexus and of short-range concrete initiatives of development and improvement. Another dimension is operation, which covers not only service - more or less embodying a service level agreement - but also the daily internal functions which support the service function.

In its present form the Strategic goals of development and operation of the CBSL comprise a short Mission statement and four major Goals, being Focus on users, Good service, Efficient internal functions and Optimal use of resources. The goals are made concrete in 60 objectives, each with sub-objectives and specific criteria of success when relevant.

The strategic plan is now approaching a stable form, though the concrete projects of development as well as the specific success criteria will change.

After the development of the strategic plan the yearly evaluation report has been based on this plan. It is structured after the four major Goals and is divided into 60 sections, one for each objective. Each section contains

- a statement of the objective with sub-objectives and success criteria if any
- performance measures
- results of any special studies of the activity in question during the year
- a summary of initiatives of development, improvement or correction concerning the activity in question during the year
- an evaluative statement concerning both the conformance between the approved objective and the actual practice and any problems indicated by the performance measures or special studies

At this stage of development, ie. in 1994, the Business School decided to develop an overall quality program for the whole school, with the assistance of
a British specialist, Lee Harvey.

We had, therefore, to look into the quality management literature and movement. We then decided that with our strategic plan, performance measures and evaluation procedure we already had some of the basic elements of a quality management program. However, two elements of such a program might be considered to be missing or insufficiently developed, one being the creation of conditions for quality and the other being 'corrective' action.

As for creating the conditions, we already had a formalised procedure for ensuring continuing staff training and development and some manuals for internal operations, but these will have to be developed further as an integral part of overall systematic quality management.

2.4 WHAT IF WE DON'T DO WHAT WE WANT TO DO? CORRECTIVE ACTION

As for corrective action, we had of course earlier done something about functions which were evaluated negatively, but this procedure, too, did not have

the degree of consistency and formalisation required by a quality management system.

In connection with our evaluation report for 1995 we have begun to develop this element. We shall probably have to find another name for it, since 'corrective action' - at least in Danish - has connotations of something unpleasant done in penal institutions!

In case of a negative evaluation of some activity, three types of response are possible.

Firstly, due to problems with measuring performance - to be described in part 5 of this paper - it is necessary to consider whether the performance measures are correct or sufficient. If not, it may be decided to modify the performance measurement in order to obtain better or more data.

An example: performance measures showed that we did not fulfil our success criteria of a minimum 95% fill rate of requisitions for interlibrary loans from other libraries. The responsible department was convinced that the fill rate was better than indicated by the performance measures and a closer look at the procedure for collecting the data actually showed that there were some problems both of validity and reliability which resulted in inexact figures giving a more negative picture than the actual case. As it is usually the other way round, we double-checked the findings and finally concluded that we had to modify the procedure and get better performance measures before being able to make an evaluation.

Secondly, if the performance measures stand up under inspection you should consider whether the negative evaluation may be due to impossible or obsolete goals, objectives or success criteria. In that case you should change the goal instead of the practice. An example: we had a success criterion consisting in a maximum mean delivery period of books from booksellers of one month. For three successive years, this criterion was not fulfilled. Our only option however seemed to be to shorten the time by having books from the US delivered by airmail and generally using rush orders much more extensively than now. However, this option is very costly so we have decided to retain our present practice and to lengthen the delivery time specified by the success criterion. Such a course may be dangerous, of course; still it is sometimes necessary: goals and objective are not sacrosanct, they too should be under continuous scrutiny and revision.

Thirdly, if one is satisfied with the quality of one's performance measures and wishes to uphold the existing goals, objectives and success criteria one will obviously have to initiate remedial measures. If this is not done, the whole quality process loses its meaning and credibility.

A remedial measure may take the form of reinforcing the existing procedures. I believe it is the second law of thermodynamics which can be restated to mean that things fall apart naturally and by themselves. There is always a tendency not to uphold existing rules, not necessarily because staff have decided that they are not good. Rules which are not actively upheld and reinforced will eventually fall into disuse.

On the other hand, if a procedure is not observed it may be because staff at grassroots level have justly determined that something is wrong with the procedure. In that case one should abolish, change or develop the procedure - in consultation with relevant staff, evidently.

If the problem is due to staff lacking the necessary qualifications or motivation for implementing sensible procedures, staff development and training measures are indicated, and if that does not help it may be necessary to shift staff to other tasks.

2.5 THE QUALITY MANAGEMENT PROGRAM OF THE CBSL - 1995

As you have heard, we have not only done it all our way, but we also did it backwards, starting from a problem and not from a decision to have a quality management system.

Our quality program is still in a period of development. It may attain a more stable form in some years, but it will most probably be in a state of continuous change not only caused by new insights from management theory, but also by changes in the library and information service environment.

As of this year, our quality program contains four major elements:

- a statement of strategic goals of development and operation consisting of a mission statement, 4 major goals, 60 concrete objectives with sub-objectives and specific criteria of success when relevant

  The objectives under the major goal of Good service together form the substance of a service level agreement with the Business School

- a program for staff training and development and for developing a set of manuals for operations and service

- an evaluation procedure based on performance measurement and other relevant information

- a procedure for corrective action comprising revision of performance measures, revision of

goals, objectives and success criteria, and remedial measures in the form of reinforcing or developing procedures and specific staff training and development

Over the last year, we have pondered whether we should go further and implement a Total quality management program or seek quality certification based on ISO 9000. Right now it is my feeling that we should not do this. For two reasons: firstly, I believe that our quality program as it stands today gives us the essentials of quality management and that we would not benefit truly by submitting to the formal requirements of TQM and ISO certification.

Secondly, we really cannot expand further the resources spent on this whole process. Some we should use, definitely, but we must also ensure adequate resources for current operations and the - very - important development tasks necessary during these years.

Thirdly, there is the matter of perspective. As managers we do not want ourselves or our staff to become engrossed in procedures of operations and measurements, evaluation and in general control. Even more important is it to keep the institution tuned to the winds of change and actively engaged in the major upheavals affecting the library and information world. These issues are of course closely related to quality and quality management, but they are of a different order. Concern with quality and control must support the even more vital issues and not deflect our energy from them.

3. Concept, Purpose and Types of Performance Measurement

The following remarks are not intended to be of a theoretical nature, but to reflect the experience of a practitioner and his attempts to develop a useful concept of PM.

3.1 THE CONCEPT OF PERFORMANCE MEASUREMENT

3.1.1 Terminological flux

As you are all aware, PM is still in a considerable terminological flux. The important point is that there is not any 'correct' terminology.

Quite probably, the national and international efforts of developing standards and toolkits for PM in libraries (The ALA guidelines in the US, SCONUL guidelines and *The Effective Academic Library* in the UK, ISO and IFLA internationally) will eventually lead to some harmonisation of terminology.

Total harmony will never prevail, though. Certain terms are untranslatable from or into English, the international language of librarianship. For example, the very term 'performance measurement' translates directly into a Danish term 'praestationsmåling' which has somewhat negative connotations in our culture. Also the distinction between 'efficiency' and 'effectiveness' cannot be rendered directly into other European languages which have only retained one substantive based on the Latin verb efficere and its related nouns. And the distinction between 'measures' and 'indicators' has given rise to a definitional controversy in Great Britain which I do not consider to be important. It does have a certain entertainment value, though, and it is one of those extravagancies of the British intellect which may assure their neighbours that the British are not quite as pragmatic as they would have us believe [murmurs and groans from the audience!].

3.1.2 What it is not

In the literature, performance measurement and evaluation are sometimes used interchangeably. This is one practice I consider to be misleading, at the risk of contradicting my own dictum that there is no 'correct' use. The reason is that I believe it is essential to try as much as possible to keep description, of which measurement forms part, distinct from value judgment, which is evaluation.

Another thing that it is not is problem solving. Of course, knowledge about the problem and its extent, provided through performance measurement, is essential but the solution to the problem is another thing completely and it is chosen in consideration of policy factors and other factors, sometimes quite unrelated to the problem as such. The performance measures may indicate relevant elements of problem solving; they do not provide the solution.

3.1.3 What it is

By performance I understand library activities in the broad sense.

Measurement is generally understood to involve some form of counting. The problem is: what may be counted? Evidently entities of a physical nature, eg. things like books, persons or users may be counted, and transactions too.

What about users' attitudes, opinions or satisfaction? And staff's for that matter or other stakeholders', too? These phenomena are of a psychological nature, and they cannot be measured directly. Quantified expressions of the phenomena may be obtained, but what is counted is how many people tell us this or that about their sentiments and

experiences and not the sentiments and experiences themselves.

Also, the matter of the degree to which users have certain sentiments (eg. very satisfied, satisfied, dissatisfied, very dissatisfied) cannot be measured directly, only how many people use the different answer categories. And of course the categories in such a division of sentiments (very satisfied through very dissatisfied) are not equidistant at all.

Some research on users' perceptions of service does not aim at quantifiable data at all, but at exemplary qualitative description and analysis. Indeed, some would altogether give up the hopeless task of quantifying anything - as if qualitative research did not, also, suffer from unsolvable methodological problems in terms of knowledge and generalisation.

This whole matter is naturally an interesting problem for specialists on methods in the social services.

On the level of the day-to-day operation of libraries I think it is reasonable to include data on users' satisfaction etc. under the concept of measures as long as it is clearly understood and remembered that the measures are not direct measures but only indirect expressions of psychological states. Also that they are based on question and answer categories which users understand and relate to differently. The same applies to categorisation of degree (eg. much, little, often, seldom). Personally, I find that these problems are fundamentally unsolvable, and that you have to live with them if you want to include data on how people experience our service functions and institutions.

In conclusion and for the purpose of this paper, I use the term performance measures in libraries as meaning quantified data on library activities.

3.2 PURPOSE

Quite simply, the purpose of performance measurement at the CBSL is: to provide data for the assessment of 1) whether or not the library fulfils its goals and objectives, and 2) the continuing relevance of these goals.

3.3 TYPES

There are various typologies of performance measures.

Input / process / output measures: Input measures relate to the resources of the library in terms of money, staff, collections etc. Process data concern the internal functions of the library (eg. processing time for new books), and output data describe its service product (eg. number of books lent).

Traditional library statistics have concentrated on basic input and output measures. The modern developments in performance measurement have included process data and extended the area of output data. As efficient internal process functions are a basic condition for good service, they should not be neglected in a comprehensive program of library performance measurement.

Objective / subjective measures: the subject-object problem is a basic problem of philosophy and psychology, which I happily leave to the specialists, cf. my comments above.

For our purpose, I consider objective measures as relating to physical things (eg. number of books) and subjective measures as relating to psychological states (eg. user satisfaction).

I do not consider objective measures to be more true than subjective measures. Both are necessary, but even together and even when obtained under optimal conditions they will not give a complete and 'true' picture. Angels would not be happy, but library managers will be pleased to obtain sensible, however imperfect data with which to plot their course in the murky-muddy waters of everyday operations.

An interesting development at our institution (the Business School) has been an experiment with obtaining subjective measures of the same items from various stakeholder groups. At the CBSL it has been tried out by submitting questionnaires on various aspects of service not only to users but also to the library staff. Interesting differences of opinion between users and staff have been demonstrated. In one case, users were happy with the service at the information desk, but staff felt there were serious problems eg. relating to new media (CD-ROM) and they were definitely less happy with their service to users than users seemingly were. Another case was the OPAC, where users expressed satisfaction with the user-friendliness of the system, while staff were not very impressed by users' OPAC-competence. This difference prompted a special investigation of a qualitative nature which concluded that users - contrary to users' own perceptions - are not very good at using the system and that they are, for this reason, far from profiting optimally from the information resources which the library puts at their disposal.

Non-comparative and comparative: performance measures concerning one institution in a single year are of course interesting in themselves. However, they become much more interesting when they can be compared with data from other years and from other institutions.

Comparative data are fraught with their own kind

of problems. Due to changes or differences in definition and practice, comparison across time and institutions may be difficult, sometimes extremely so. Still, they should be tried, and problems solved as they arise or are recognised.

Whether comparisons between institutions' performance measures can be considered to be 'benchmarking' is a matter for debate. If one includes qualitative analysis of best practice in the definition of benchmarking, mere comparison of quantitative data may not suffice. Such data must be seen in their relationship to libraries' mission, goals and objectives and they do not provide answers to why and how one library has 'better' scores than another. Still, it is interesting to create a horizon of comparison and the comparison of quantitative data may also be quite relevant as first steps in a process of identifying, describing and analysing 'best practice'.

Simple and composite: simple measures are direct measures of something. Composite measures are obtained by relating simple measures, usually by division.

Composite measures (sometimes termed as indicators in contradistinction to measures) are necessary for a deeper analysis of phenomena and they are essential to comparison over years and across institutions. It is interesting to know that a library lends 300,000 books a year. It is even more interesting to know that it lends ten books per FTE student, especially if you want to know how the library performs in relation to other libraries. To know that one library lends 400,000 books and another 100,000 is not very interesting in itself. What you would really like to know is how the circulation figure relates to the budgets of the libraries and the number of students - and the rate of registered use to unregistered use in reading rooms. And then you would still need to know the basic acquisition policies of the institutions, of course: do they acquire books to cover the urgent needs of students mainly, or do they acquire books 'for the centuries and the scholar showing up in 200 years', or do they acquire books because they are responsible for preserving the national literary culture?

4. A Case: Interlibrary Loans from Other Libraries

4.1 INTRODUCTION

In order to illustrate the points and ideas developed above, I shall now present a case. It is based on a library resembling the CBSL, but the data given below are not identical with ours, and they are selected with a view to clarify certain basic notions.

Imagine a library being part of a higher educational institution and serving a primary user group of 10,000 students (FTEs) and 600 academic staff. Its yearly budget is 2.5 million pounds and it spends 350,000 pounds on acquisitions, including 10,000 pounds on ILL from other libraries. Its collections amount to 250,000 volumes. It pursues an active weeding policy and aims at a no-growth library of 300,000 volumes in the year 2000.

The activity concerning interlibrary loans from other libraries has been stagnating for a number of years. Formerly, almost all loans were for teachers at the CBS; in the most recent years there has been an important relative rise in the number of loans for students. It is believed that the last development is due to students becoming familiar with the large bibliographic databases on CD-ROM and in the diminution of the - already - small fee for IL loans from abroad. This fee is not imposed in order to recover costs but to regulate behaviour and to ensure that only items really needed are requested.

Whereas teachers often do not need very speedy delivery of materials borrowed from other libraries, the students need rapid delivery because the materials are to be used in papers to be finished within weeks or a few months - or yesterday!

The library is still predominantly using traditional methods of ILL. Only recently has it begun to use online and fax-based methods of delivery and systems like UNCOVER are still only used to a very limited extent.

4.2 OBJECTIVES

The objective of our fictive library concerning interlibrary borrowings is the following:

- To provide reliable and speedy loans from other libraries and information systems

The success criterion is:

- A fill rate of 95% of all requisitions received from users and a mean delivery period of 21 days

4.3 THE PERFORMANCE MEASURES

The performance measures are given in three tables, one with objective data, one with subjective data and one with comparative data.

In Table 1 the 'fill rate' is the number of requisitions from users fulfilled within standard delays.

'IL loans/all loans %' means loans to users of materials borrowed from other libraries as a percentage of all loans.

It is seen in this table that:

Table 1

Objective performance measures of IL borrowings	1992	1993	1994
For teachers	2,500	2,500	2,500
For students	500	600	700
All	3,000	3,100	3,200
Fill Rate	93%	94%	95%
Delivery Time (mean) / days	25	23	21
IL borrowings / all loans	1.0%	0.9%	0.8%
Cost per loan / D.Kr.	75	77	79

- the number of interlibrary borrowings is increasing very slowly, and only due to an increase of borrowings for students
- The fill rate has risen over the last years to just fulfil the strategic requirement of 95%
- The delivery time has fallen over the last years to just fulfil the strategic requirement of 21 days
- The interlibrary borrowings activity forms a very small and decreasing part of the total lending activity of the library
- The cost of interlibrary borrowings is going up a little, but is stagnating if inflation is accounted for

Table 2 gives the (very!) fictive satisfaction rates of 4 groups: 2 user groups, ie. academic staff and students, the library staff, and the library management. The indifferent, unsatisfied and very unsatisfied users are not given - for simplicity's sake.

It is seen in this table that concerning the fill rate

- teachers are consistently and highly (99%) satisfied
- students are consistently satisfied at the 80% level
- library staff satisfaction increased over the years from 50% to total satisfaction coinciding with the achievement of the strategic objective
- library management only became satisfied when the strategic objective was fulfilled in 1994

Concerning the times of delivery

- teachers were consistently satisfied at the 90% level
- students' satisfaction level decreased from 80% to 40%
- library staff satisfaction followed the same pattern as for the fill rate
- library management satisfaction fell from 50% to 0%

Table 2

Subjective performance measures of IL borrowings Satisfied or very satisfied	1992	1993	1994
Teachers			
Fill Rate	99%	99%	99%
Delivery Times	90%	90%	90%
Students			
Fill Rate	80%	80%	80%
Delivery Times	80%	60%	40%
Library Staff			
Fill Rate	50%	75%	100%
Delivery Times	50%	75%	100%
Library Management			
Fill Rate	0%	0%	100%
Delivery Times	50%	25%	0%

Table 3

Comparative performance measures of IL borrowings	Lib A	Lib B	Lib C	Lib D
All IL borrowings	3,200	4,500	5,000	5,500
IL borrowings / all loans	0.8%	5.0%	2.0%	4.0%
Cost per loan / D.Kr.	79	120	95	102

In Table 3, library A is our case library, and the others are libraries of the same type and those which are most often used by library A for comparison.

It is seen that

- the case library has the smallest number of interlibrary borrowings both in absolute numbers and as part of the total lending activity
- it also has the smallest cost per borrowing

4.4 EVALUATION ON THE BASIS OF PERFORMANCE MEASURES

The first question addressed in the evaluation exercise is the following:

Is the actual practice of the library in conformity with the strategic objective and the success criterion?

The answer is: yes. It is satisfactory that the library has now come to fulfil its strategic objective concerning interlibrary borrowings.

The second question is:

Do all the available data point to a satisfactory situation concerning interlibrary borrowings?

The answer is: no. The decreasing satisfaction of students and management with the time of delivery is not satisfactory, even if the strategic objective is fulfilled.

Fictive follow-up studies of this phenomenon show that students are simply getting more demanding, particularly as they get more attuned to instant online contact with an increasing number of information resources. Management is unhappy because major systems for rapid (24-48 hours) online or fax delivery of periodical articles have now become available with the result that delivery times which were satisfactory in the earlier period have now become unsatisfactory.

The third question is:

How would you evaluate the activity concerning interlibrary loans on the basis of these data?

It is satisfactory that the strategic objectives are now being met. However, the success criterion concerning the delivery time has been made obsolete by the information technological development and should be revised.

The fourth question is:

If you have mentioned any problems in the evaluation, how would you propose to address them?

Three types of corrective action have been mentioned earlier: improving the data, revising strategic objectives or their success criteria, undertaking specific initiatives of development.

In our case, all three will be employed.

- A special investigation of how many requisitions actually concern periodicals available on high-speed document delivery systems will be made. If a sufficient number proves to be available, then
- the success criterion for speedy interlibrary borrowings will be lowered from 21 to 14 days (as a cautious beginning)
- ILL procedures will be changed so that UNCOVER and similar systems will be used in preference and if possible to other, traditional partners

The main notion to be illustrated by this case is that performance measures should be used both for assessing whether strategic objectives are being met and if strategic objectives remain relevant. Often, subjective performance measures may be the best indicator of the continued relevance of strategic objectives.

5. Problems of Performance Measurement Affecting Quality Management

One thing with performance measures is unavoidable: you can never feel safe! Some definition suddenly turns out to cover aspects you had not thought about, somebody 'on the floor' changes the way of counting something, the demon in your machine develops acute insanity - as when a computer at a major library started to count only every second loan - or there has been a misunderstanding between managers and programmers concerning some parameter of automatically produced management information.

Before going into various problem types, a piece of advice: stay calm! Try to control the information gathering process, start with clear definitions, establish simple procedures, have someone in charge who has a good general knowledge of your library's functions and a feeling for numbers and who can sense when there must be something wrong with the data. This advice is so good that I shall eventually follow it myself!

However, whatever you do the error-free system is impossible. Recognise that and simply correct errors and misunderstandings as they are discovered. Sometimes, you may have to declare certain data lost and you will lose comparability over the years. Well, life goes on.

Also, if you are experimenting with new forms of complex data you may reach a point where it becomes necessary to declare that the problems in defining and collecting them cannot be solved adequately, something still stinks. In that case, cut the measurement. Even if it may be embarrassing in view of your earlier efforts, possibly in the face of staff opposition.

5.1 VALIDITY

By validity is meant simply that the measure actually measures what it is supposed to measure.

An example: We have been measuring the time of delivery of books from our book-agents, counted from the day our order is sent to the day the book is received. The time consistently turned out to be (and still is) surprisingly high. However, only after a couple of years we became aware that the CBSL orders quite a large number of books, on the basis of pre-announcements, which have not been published at the time of ordering. Our measurement of delivery time had thus somehow been messed up with delays of publication. The problem was solved by excluding books, which we knew had not been pub-

lished at the time of ordering, from the measurement. We could not solve the problem of books which had actually not been published but we thought they had. Still the measurement today is more valid than it was before we made the correction for books known to be unpublished.

Another example: the fill rate for requisitions of books through interlibrary loan from other libraries is calculated on the basis of number of requisitions sent to other libraries (B) and the number of books etc. received (A) - as A/B%. Three problems have been discovered. Firstly, it turned out out that if we did not get the material requested from a library, we would send the requisition to another library. We would then count the requisition twice. As we only obtained the material once, the fill rate would be 50%. However, there would only be one request from the user, and she actually obtained it! So we had a problem of validity. We solved it by starting to count only the first requisition to a library, and not the repeat-requisitions to other libraries.

Secondly, at some point it turned out that users' requests were also counted as ILL requests in those cases when our library decided to buy the book requested. As the request was counted as an ILL request by the ILL department, but the book was not received by that department (but eventually by the acquisitions department), the book was not counted as a fulfilled ILL request. So the fill rate for this request was 0%, even though the book would actually be obtained for the user. Again a problem of validity. We solved it by starting not to count requests transferred from ILL to acquisitions. Still, how should we deal with user-requests transferred to the acquisitions department when the book was not actually received from the bookseller? At present we have chosen to ignore the problem, so we still have a validity problem somewhere, but the pure ILL measure is more valid now.

Thirdly, a number of ILL requests are based on faulty and unverifiable bibliographic information from the users. They concern unexisting materials or materials which exist by another name. As the library's requisitions cannot be met, these user requests lower the fill rate to an unknown degree. However, as we now have a fill rate of 98% of our ILL requisitions to other libraries, we have decided to ignore the problem.

So, you will not be surprised that having discovered three problems with this fairly simple measure I cannot help wondering what problems we might not yet have discovered in this regard.

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5.2 RELIABILITY

Is a measurement performed consistently and correctly?

An example: One of the departments of the CBSL was responsible for reporting monthly the number of article copies sent to other libraries. The monthly number was usually about 20. Then, one month the number rose to about 200. I noticed it but did not have it checked, as it might be because of some special order from another institution. When the c. 200 figure was repeated during the next two months I asked the head of the department what was happening. She answered that other libraries were discovering the excellent holdings of the department and the promptitude with which requests were fulfilled. Not an eye was dry, as we say in Danish. However, a week after she called back, very embarrassed, that actually it was a new technical assistant who had started to count the number of photocopied pages instead of articles.

These things will happen all the time, and some of the problems will reflect the way your library trains new staff members, such training being of course an essential element of quality management.

Sometimes the unreliable (or invalid) measures give a false-better image of your library's doings, sometimes a false-worse one. At any rate, the greater the unreliability of your measurements, the less you are able to assess the functions of your library and whether you are meeting your own goals and objectives. You can then only hope that you do not run into a major uncharted iceberg-problem and sink with all hands.

5.3 VERBALISATION

For the benefit of your audience - the readers of your quality report, staff, university management etc. - you want to verbalise those complicated figures in the tables.

'This table shows that . . . '

The first problem arising is one of translating figures into words. When is a 25% increase a 'large increase', when is it 'small'? When is it 'significant' or 'considerable'? Even if you do take care about using such words consistently and in consideration of the underlying absolute figures or their degree of complexity (eg. the use rate of your collection), you may easily slip into using language which somehow reflects your personal values. As the measures should provide a solid basis for a common understanding of the situation of the library, this is a problem.

5.4 INTERPRETATION

A most common error concerns causality. A certain development is clearly indicated by some figures, and you triumphantly or dejectedly conclude that this or that change of policy or unfortunate external event was responsible for the development.

An example: recently the CBSL decided to lower the fee for articles printed from our full text business periodicals CD-ROM system. The change was followed by a 'significant' increase in the number of copies requested by users. As I had myself proposed the lowering of the fee, I easily concluded that the rise in the number of copies was due to the lowering of the price. My deputy, however, who is responsible for the library's economy and who had opposed the measure, countered that the development was due to the quite predictable increase of students' familiarity with the system. We may both be right, of course.

The point is that the measure in itself did not tell us about the reason for the development of the figures.

It would be inhuman to forbid interpretation and explanations of performance measures, even concerning causality. However, care must be shown, and before you publicise your findings you might profit from having your interpretations examined by informed, intelligent people - preferably some who dislike you vehemently. You may suffer in the process, but you should end up with more refined interpretations.

5.5 RECEPTION

In the total quality process it is important how your performance measurement is 'received' by your stakeholders.

In relation to the CBS, ie. our academic mother institution, it has been rather encouraging that the School authorities react positively towards the library's efforts in the line of performance measurement and quality management. The credibility of the library as a service institution is raised, though sometimes - embarrassingly - our good intentions are confused with the actual thing.

A problem is that external parties may easily fixate on certain very understandable measures, like the number of loans. As long as it goes up, fine. What will happen when it goes down because we shall be actively promoting our users' direct connection with international online information providers, thus effectively teaching them to bypass the library?

Another problem is unwanted comparisons with other, similar institutions. Why does this library have fewer loans per student than the library at X University? Well, possibly because we have an abnormally high percentage of part-time students, for example. Actually, I have not met this type of reaction at our own institution, but I am told that it can be a real problem in countries, like England, where generalised systems for comparison of performance measures may be important for allocation of funds.

At any rate, I do believe that a consistent and credible program of quality management and performance measurement will raise the library's standing in the institution of which it forms part.

In relation to library staff the situation is highly complex.

Performance management may be resented by staff as basically a mechanism of control and a time-consuming waste of resources. The problem is aggravated in cases when the performance measures directly concern deficiencies and faults at staff level, eg. the number of cataloguing errors.

In this respect libraries are very different, and general advice difficult.

The much desired total mobilisation of staff required by the formal TQM systems I consider to be impossible in cultures with low degrees of authoritarianism and absence of the mystique of the leader. I do not consider it to be a coincidence that this requirement (of total staff mobilisation) was formulated in Japan and in the US.

Personally, I distrust management by mystique, by seduction or by charismatic infusion of 'motivation' by leaders into staff.

Taught by experience, I am also sceptical about the possibility or desire of each individual staff member to relate to the total quality picture and management of the institution.

I do believe that managers should make a reasonable and intelligent effort at having staff understand and participate in performance measurement and quality management.

On the other hand, I feel that the claims made by the QM gurus concerning staff engagement in the total process are exaggerated. Many staff members can perfectly well want to do a good job and actually do it without subscribing to or being deeply interested in managers' grand plans. As long as they do a good job, they do not have to say, 'Hail quality' every morning.

And the users? Users are only dimly, if at all, aware of quality programs and performance measurement. What they react to is basically: can they get what they need - when they need it? Blissfully they ignore our wonderful intentions and are only

concerned with one thing: the actual service product.

However, we have discovered that students do tend to react positively to user studies, particularly those which are carried out in a 'personal' atmosphere - being questioned over a cup of coffee and a biscuit, preferably by a young nice person of the opposite sex! Comments reflect the feeling that 'it is good that the library cares'.

There may be some problems of methodology in this and the effect - if it is true - is an unintended side-effect. However, if the library really does care, it is OK that the students get the message.

6. Conclusion

Performance measurement is a necessary instrument for quality management. It makes possible the assessment of whether or not a library fulfils its goals and objectives, and whether or not particular objectives remain relevant.

Performance measurement cannot provide a totally objective, 'true' and comprehensive image of a library's function. A quality conscious library cannot do without it, though, even if it will always be flawed or incomplete.

So, management will go on being an art, not a science, and decisions will still have to be made on the basis of approximate knowledge and intuition, not as results of computer calculations and untouched by human minds. Fortunately!

Discussion

Don Revill, Liverpool John Moores University: On the subject of time and its importance: I do not believe time is of the essence. Time is something librarians think they ought to minimise. No other profession gives instant answers. I would say to a student that if it takes 21 days to get an interlibrary loan, they ought to have requested it earlier. It is said that taking time to deliver imbues it with importance. It was worth waiting for. Research has shown that time is not important to academics but it is to the students. They shouldn't need interlibrary loans. Why worry if it takes a long time. It is somebody else's performance that is at fault: the publishers, the transport system, the postal service.

Michael Cotta-Schønberg: I respectfully disagree. There is always a fast way to do things. And students are important people too. The students' time is important to them, so it is important to us. But to take one instance that I am keenly concerned about: if a student wants a book that we have actually bought, and if he or she has to wait six months before getting it because there is a queue for it, is that not important to the student? Should we not be concerned about it?

Don Revill: That is a different problem.

Michael Cotta-Schønberg: OK, but it is a time problem.

Roswitha Poll, Universitäts- und Landesbibliothek Münster: We are working on a national system of interlibrary lending now which will be very quick, 'Con Subito'. In a questionnaire to find out desired delivery times, we asked whether 24 or 48 hours was too quick for document delivery and asked users about payment for a quality service, say the equivalent of £1, £2 or £3 per document. We found that 50% to 80% were satisfied with two weeks delivery. 20% to 30% wanted material very urgently and would pay for it. Security - being sure of getting the document - seemed to be more important than getting it quickly.